IMMULITE 2000 3gAllergy Specific IgE CVM

510(k) Summary as Required by 21 CFR 807.92

A. 510(k) Number: K133122

OCT 3 0 2013

B. Purpose for Submission:
New device

C. Measurand:
Quality Control materials for IMMULITE 2000 3gAllergy Specific IgE assay

D. Type of Test:
Calibration Verification Material for IMMULITE 2000 3gAllergy Specific IgE assay

E. Applicant:
Siemens Healthcare Diagnostics Inc.
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Tarrytown, NY 10591
Contact Person:
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Date Prepared:
September 27, 2013

F. Proprietary and Established Names:
Trade name: IMMULITE® 2000 3gAllergy Specific IgE Calibration Verification Material (CVM)
Common name: Calibration Verification Material (CVM)
Classification name: Single (specified) Analyte Controls (assayed and unassayed)

G. Regulatory Information:
Regulation Section: 21 CFR 862.1660
Classification: Class I (Reserved)
Products Code: JJX – Single (specified) Analyte Controls (assayed and unassayed)
Panel: Immunology (82)

H. Intended Use / Indicartions for Use:

1. Intended / Indications for Use

The IMMULITE 2000 3gAllergy Specific IgE Calibration Verification Material (CVM) is intended for *in vitro* diagnostic use, as a control for calibration verification of the IMMULITE 2000 3gAllergy Specific IgE assay on IMMULITE 2000 systems as indicated in the CVM Package Insert.

2. Special Conditions for Use:

For prescription use only. For *in vitro* diagnostic use. The IMMULITE 2000 3gAllergy Specific IgE Calibration Verification Material is not intended to be used as a primary calibrator or control material.

3. Special Instrument Requirements:

IMMULITE® 2000 System

I. Device Description:

The IMMULITE 2000 3gAllergy Specific IgE Calibration Verification Material (CVM) is supplied frozen in liquid form. It consists of one set of four vials, 2 mL each. L2UNCVM1 contains equine serum matrix with 0.098% sodium azide and preservatives. L2UNCVM2, L2UNCVM3 and L2UNCVM4 contain various levels of human IgE positive serum in an equine serum matrix with 0.098% sodium azide and preservatives.

J. Substantial Equivalence Information:

Predicate Device name: Elecsys IgE CalCheck 5

Predicate 510(k) number: k102269

Comparison with predicate:

A comparison of the device features, intended use, and other information demonstrates that the IMMULITE® 2000 Allergy Specific IgE Calibration Verification Material (CVM) is substantially equivalent to the predicate device, Elecsys IgE CalCheck 5, as summarized in Table 1.

Table 1: Substantial Equivalence Comparison

SIMILARITIES		
	Candidate Device **IMMULITE 2000 Allergy Specific IgE CVM**	**Predicate Device** **Elecsys IgE CalCheck 5**
Intended Use	The IMMULITE 2000 3gAllergy Specific IgE Calibration Verification Material (CVM) is intended for *in vitro* diagnostic use, as a control for calibration verification of the IMMULITE 2000 3gAllergy	For use in calibration verification and for use in the verification of the assay range established by the Elecsys IgE II reagent on the indicated Elecsys and cobas e immunoassay analyzers.

SIMILARITIES		
	Specific IgE assay on IMMULITE 2000 systems as indicated in the CVM Package Insert.	
Analyte	IgE	Same

	DIFFERENCES	
	New Device **IMMULITE 2000 Allergy Specific IgE CVM**	**Predicate Device** **Elecsys IgE CalCheck 5**
Form	Liquid	Lyophilized
Levels	4	5
Matrix	Equine Serum	Human Serum
Storage	Unopened: Store at ≤ -20°C until the expiration date Opened: Use immediately after opening. Discard any unused material.	Unopened: Store at 2-8°C until the expiration date Reconstituted: 15-25°C, 4 hours

K. Standard/Guidance Document Referenced:

- CEN 13640 Stability Testing of In Vitro Diagnostic Reagents
- Guidance for Industry and FDA Staff – Assayed and Unassayed Quality Control Material
- Guidance for Industry and FDA Staff – Bundling Multiple Devices or Multiple Indications in a Single Submission

L. Test Principle:

Calibration verification is not a requirement of the IMMULITE 2000 system or the IMMULITE 2000 Allergy Specific IgE assay. CVMs are used by laboratories that wish to document calibration verification as required by certification agencies.

M. Performance Characteristics (if/when applicable):

1. Analytical Performance:

a. Precision/Reproducibility:

Not applicable

b. Linearity/assay reportable range:

Not applicable

c. Traceability, Stability, Expected values:

Traceability:
The IMMULITE 3gAllergy Specific IgE CVMs are traceable to WHO 2nd IRP (75/502). The CVMs are manufactured using qualified materials and measurement procedures.

Stability Summary:
The stability study was conducted to validate shelf life claim for the IMMULITE 2000 Allergy Specific IgE Calibration Verification Material (CVM) to ensure that it maintains optimal product performance on IMMULITE 2000 systems throughout the established shelf life of the CVM. The IMMULITE® 2000 Allergy Specific IgE Calibration Verification Materials (CVMs) are stable up to 1.5 years when stored at -20°C prior to opening.

Stability Protocol Summary:
The CVM study protocols are run as part of the calibrator stability testing. The stability calibrators/CVMs are run in duplicate (as a minimum) and the dose value determined from the reference calibrator curve, as summarized in Table 2.

Table 2: Stability Protocol Summary

CVM Level	Time-Points (Days)			
L2UNCVM1	1	365	548	730
L2UNCVM2	1	365	548	730
L2UNCVM3	1	365	548	730
L2UNCVM4	1	365	548	730

Stability Acceptance Criteria Summary:
The Acceptance Criteria for the IMMULITE 3gAllergy Specific IgE Calibration Verification Material (CVM) are in 2 parts. Part 1 consists of the Guideline acceptance criteria which require dose value of stability calibrator/CVM to fall between ±20% of assigned dose for CVM level 2, ±10% for CVM level 3 and ±15% for CVM level 4. Part 2 review limits criteria which require dose value of the controls to be within 2SD of the control target value when generated from the stability calibrator curve. If the result is not within acceptable dose range of ±20% of assigned dose for CVM level 2, ±10% for CVM level 3 and ±15% for CVM level 4, then additional data review is conducted using part 2 criteria.

Value Assignment:
The IMMULITE internal calibrators and likewise CVMs are value assigned using assigned reference calibrators. The assigned reference calibrators are prepared using 3gAllergy Specific IgE antigen stock sourced from Scipac and are traceable to WHO 2nd IRP (75/502). The calibrators/CVMs are manufactured using qualified materials and measurement procedures. The calibrators/CVMs were tested on 27 replicates in total comprised of 9 runs, 8 systems and 3 different reagent kit lots. The Calibrators/CVMs dose values were determined using a curve generated by assigned

reference calibrators. The calibrator/CVM values are calculated based on the recovered values for each run on each instrument independently. Calibrator/CVM values are then averaged across all systems. Quality control is performed by calculating the recovery of patient samples and controls using the assigned calibrator/CVM values. The assay controls must fall within their target ranges. The Guideline Range (95% confidence interval) for each CVM level was established based on the Target Mean and ± 2SD.

Target Mean and Guideline Range:

Table 3: CVM Release Ranges

CVM (kU/L)	Target Mean (kU/L)	SD	Guideline ± 2SD Range (kU/L)	Precision (% CV)
CVM 1	0.00	-	≤0.10	N/A
CVM 2	0.19	0.023	0.144 – 0.236	≤24
CVM 3	3.31	0.165	2.98 – 3.64	≤10
CVM 4	107*	-	-	-
80% CVM 4, 20% CVM1*	85.6	6.4	72.8- 98.4	≤15
Assay Range	0.10 – 100 kU/L			

*Note: CVM 4 (REF L2UNCVM4) requires dilution to ensure the target value is approximately 100 kU/mL, the top of the reportable range of the assay.

Expected Values/Reference Range:
Each laboratory should establish their limits for acceptability based on methodology, clinical significance and medical decision levels of the test analyte. The representative, total precision tabulated in the respective assay instructions for use may be considered as one factor when establishing local, acceptable ranges. The values provided above may be considered as guidelines. Value assignment is lot specific.

d. Detection Limit:
Not applicable
e. Analytical Specificity:
Not applicable
f. Assay cut-off:
Not applicable

2. Comparison studies:
a. Method comparison with predicate device:
Not applicable

b. Matrix comparison:
Not applicable

3. Clinical Studies:

a. Clinical Sensitivity:
Not applicable

b. Clinical Specificity:
Not applicable

c. Other clinical supportive data (when a. and b. are not applicable).
Not applicable

4. Clinical cut-off:
Not applicable

5. Expected values/Reference Range:
The expected values are provided in the labeling for each specific lot.

N. Proposed Labeling:
The labeling is sufficient and it satisfies the requirements of 21 CFR Part 809.10

O. Conclusion:
The IMMULITE® 2000 Allergy Specific IgE Calibration Verification Material is substantially equivalent to Elecsys IgE CalCheck 5, as demonstrated by results of non-clinical testing, which supports a determination of substantial equivalence.

K133122

IMMULITE 2000 Total IgE CVM

510(k) Summary as Required by 21 CFR 807.92

A. 510(k) Number: K133122

B. Purpose for Submission:
New device

C. Measurand:
Quality Control materials for IMMULITE 2000 Total IgE assay

D. Type of Test:
Calibration Verification Material for IMMULITE 2000 Total IgE assay

E. Applicant:
Siemens Healthcare Diagnostics Inc.
Mailing Address:
511 Benedict Avenue
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Contact Person:
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E-mail Address:
susan.brocchi@siemens.com
Date Prepared:
September 27, 2013

F. Proprietary and Established Names:
Trade name: IMMULITE® 2000 Total IgE Calibration Verification Material (CVM)
Common name: Calibration Verification Material (CVM)
Classification name: Single (specified) Analyte Controls (assayed and unassayed)

G. Regulatory Information:
Regulation Section: 21 CFR 862.1660
Classification: Class I (Reserved)
Products Code: JJX – Single (specified) Analyte Controls (assayed and unassayed)
Panel: Immunology (82)

H. Intended Use / Indications for Use:

1. Intended / Indications for Use

The IMMULITE 2000 Total IgE Calibration Verification Material (CVM) is intended for *in vitro* diagnostic use, as a control for calibration verification of the IMMULITE 2000 Total IgE assay on IMMULITE 2000 systems as indicated in the CVM Package Insert.

2. Special Conditions for Use:

For prescription use only. For *in vitro* diagnostic use. The IMMULITE 2000 Total IgE Calibration Verification Material is not intended to be used as a primary calibrator or control material.

3. Special Instrument Requirements:

IMMULITE® 2000 System

I. Device Description:

The IMMULITE 2000 Total IgE Calibration Verification Material (CVM) is supplied frozen in liquid form. It consists of one set of four vials, 3 mL each. LIECVM1 contains equine serum matrix with 0.098% sodium azide and preservatives. LIECVM2, LIECVM3 and LIECVM4 contain various levels of human IgE positive serum in an equine serum matrix with 0.098% sodium azide and preservatives.

J. Substantial Equivalence Information:

Predicate Device name: Elecsys IgE CalCheck 5

Predicate 510(k) number: k102269

Comparison with predicate:

A comparison of the device features, intended use, and other information demonstrates that the IMMULITE® 2000 Total IgE Calibration Verification Material (CVM) is substantially equivalent to the predicate device, Elecsys IgE CalCheck 5, as summarized in Table 1.

Table 1: Substantial Equivalence Comparison

SIMILARITIES		
	Candidate Device **IMMULITE 2000 Total IgE CVM**	**Predicate Device** **Elecsys IgE CalCheck 5**
Intended Use	The IMMULITE 2000 Total IgE Calibration Verification Material (CVM) is intended for *in vitro* diagnostic use, as a control for calibration verification of the IMMULITE 2000 Total IgE assay on IMMULITE 2000 systems as indicated in the CVM	For use in calibration verification and for use in the verification of the assay range established by the Elecsys IgE II reagent on the indicated Elecsys and cobas e immunoassay analyzers.

SIMILARITIES		
	Package Insert.	
Analyte	IgE	Same

	DIFFERENCES	
	New Device **IMMULITE 2000 Total IgE CVM**	**Predicate Device** **Elecsys IgE CalCheck 5**
Form	Liquid	Lyophilized
Levels	4	5
Matrix	Equine Serum	Human Serum
Storage	Unopened: Store at ≤ -20°C until the expiration date Opened: Use immediately after opening. Discard any unused material.	Unopened: Store at 2-8°C until the expiration date Reconstituted: 15-25°C, 4 hours

K. Standard/Guidance Document Referenced:

- CEN 13640 Stability Testing of In Vitro Diagnostic Reagents
- Guidance for Industry and FDA Staff – Assayed and Unassayed Quality Control Material
- Guidance for Industry and FDA Staff – Bundling Multiple Devices or Multiple Indications in a Single Submission

L. Test Principle:

Calibration verification is not a requirement of the IMMULITE 2000 system or the IMMULITE 2000 Total IgE assay. CVMs are used by laboratories that wish to document calibration verification as required by certification agencies.

M. Performance Characteristics (if/when applicable):

6. Analytical Performance:

a. Precision/Reproducibility:

Not applicable

b. Linearity/assay reportable range:

Not applicable

c. Traceability, Stability, Expected values:

Traceability:
The IMMULITE Total IgE CVMs are traceable to WHO 2nd IRP (75/502). The CVMs are manufactured using qualified materials and measurement procedures.

Stability Summary:
The stability study was conducted to validate shelf life claim for the IMMULITE 2000 Total IgE Calibration Verification Material (CVM) to ensure that it maintains optimal product performance on IMMULITE 2000 systems throughout the established shelf life of the CVM. The IMMULITE® 2000 Total IgE Calibration Verification Materials (CVMs) are stable for up to 4 years when stored at -20°C prior to opening, supporting the claim of 3.5 years shelf life.

Stability Protocol Summary:
The CVM study protocols are run as part of the calibrator stability testing. The stability calibrators/CVMs are run in duplicate (as a minimum) and the dose value determined from the reference calibrator curve, as summarized in Table 2.

Table 2: Stability Protocol Summary

CVM Level	Time-Points (Days)			
LIECVM1	1	182	365	548
LIECVM2	1	182	365	548
LIECVM3	1	182	365	548
LIECVM4	1	182	365	548

Stability Acceptance Criteria Summary:
The Acceptance Criteria for the IMMULITE Total IgE Calibration Verification Material (CVM) are in 2 parts. Part 1 consists of the Guideline acceptance criteria which require dose value of stability calibrator/CVM to fall between ±20% of assigned dose for CVM level 2, ±10% for CVM level 3 and ±15% for CVM level 4. Part 2 review limits criteria which require dose value of the controls to be within 2SD of the control target value when generated from the stability calibrator curve. If the result is not within acceptable dose range of ±20% of assigned dose for CVM level 2, ±10% for CVM level 3 and ±15% for CVM level 4, then additional data review is conducted using part 2 criteria.

Value Assignment:
The IMMULITE internal calibrators and likewise CVMs are value assigned using assigned reference calibrators. The assigned reference calibrators are prepared using Total IgE antigen stock sourced from Bioresource and are traceable to WHO 2nd IRP (75/502). The calibrators/CVMs are manufactured using qualified materials and measurement procedures. The calibrators/CVMs were tested on 27 replicates in total comprised of 9 runs, 8 systems and 5 different reagent kit lots. The Calibrators/CVMs dose values were determined using a curve generated by assigned reference calibrators. The calibrator/CVM values are calculated based on the recovered values

for each run on each instrument independently. Calibrator/CVM values are then averaged across all systems. Quality control is performed by calculating the recovery of patient samples and controls using the assigned calibrator/CVM values. The assay controls must fall within their target ranges. The Guideline Range (95% confidence interval) for each CVM level was established based on the Target Mean and ± 2SD.

Target Mean and Guideline Range:

Table 3: CVM Release Ranges

CVM (IU/L)	Target Mean (IU/L)	SD	Guideline ± 2SD Range (IU/L)	Precision (% CV)
CVM 1	0.00	-	≤1.00	N/A
CVM 2	2.91	0.3	2.3 - 3.5	≤20
CVM 3	100	7.0	86.0 – 114	≤14
CVM 4	2492	-	-	-
85% CVM 4* 15% CVM 1	2065	206.5	1652 - 2478	≤20
Assay Range	1 – 2000 IU/L			

*Note: CVM 4 (REF LIECVM4) requires dilution to ensure the target value is within +10% of the top of the reportable range of the assay.

Expected Values/Reference Range:
Each laboratory should establish their limits for acceptability based on methodology, clinical significance and medical decision levels of the test analyte. The representative, total precision tabulated in the respective assay instructions for use may be considered as one factor when establishing local, acceptable ranges. The values provided above may be considered as guidelines. Value assignment is lot specific.

d. Detection Limit:
Not applicable
e. Analytical Specificity:
Not applicable
f. Assay cut-off:
Not applicable

7. Comparison studies:

a. Method comparison with predicate device:
Not applicable
b. Matrix comparison:
Not applicable

8. Clinical Studies:

a. Clinical Sensitivity:
Not applicable
b. Clinical Specificity:
Not applicable
c. Other clinical supportive data (when a. and b. are not applicable)
Not applicable

9. Clinical cut-off:
Not applicable

10. Expected values/Reference Range:
The expected values are provided in the labeling for each specific lot.

N. Proposed Labeling:
The labeling is sufficient and it satisfies the requirements of 21 CFR Part 809.10

O. Conclusion:
The IMMULITE® 2000 Total IgE Calibration Verification Material is substantially equivalent to Elecsys IgE CalCheck 5, as demonstrated by results of non-clinical testing, which supports a determination of substantial equivalence.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
10903 New Hampshire Avenue
Document Control Center – WO66-G609
Silver Spring, MD 20993-0002

October 30, 2013

SIEMENS HEALTHCARE DIAGNOSTICS, INC.
C/O MS. SUSAN BROCCHI, RAC
SENIOR REGULATORY AFFAIRS SPECIALIST
511 BENEDICT AVENUE
TARRYTOWN NY 10591-0597

Re: K133122
Trade/Device Name: IMMULITE 2000 3gAllergy Specific IgE Calibration Verification Material (CVM) and IMMULITE 2000 Total IgE Calibration Verification Material (CVM)
Regulation Number: 21 CFR 862.1660
Regulation Name: Quality control material (assayed and unassayed)
Regulatory Class: I
Product Code: JJX
Dated: September 27, 2013
Received: September 30, 2013

Dear Ms. Brocchi:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Parts 801 and 809); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the

electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulations (21 CFR Parts 801 and 809), please contact the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638 2041 or (301) 796-7100 or at its Internet address http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm.

Sincerely yours,

Reena Philip -S

for Maria M. Chan, Ph.D.
Director
Division of Immunology and Hematology Devices
Office of In Vitro Diagnostics
and Radiological Health
Center for Devices and Radiological Health

Enclosure

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Food and Drug Administration

Indications for Use

Form Approved: OMB No. 0910-0120
Expiration Date: December 31, 2013
See PRA Statement on last page.

510(k) Number: k133122

Device Name
IMMULITE® 2000 3gAllergy™ Specific IgE Calibration Verification Material

Indications for Use *(Describe)*
The IMMULITE 2000 3gAllergy Specific IgE Calibration Verification Material (CVM) is intended for in vitro diagnostic use, as a control for calibration verification of the IMMULITE 2000 3gAllergy Specific IgE assay on IMMULITE 2000 systems as indicated in the CVM Package Insert.

Type of Use *(Select one or both, as applicable)*

☒ Prescription Use (Part 21 CFR 801 Subpart D) ☐ Over-The-Counter Use (21 CFR 807 Subpart C)

PLEASE DO NOT WRITE BELOW THIS LINE – CONTINUE ON A SEPARATE PAGE IF NEEDED.

FOR FDA USE ONLY

Concurrence of Center for Devices and Radiological Health (CDRH) *(Signature)*

Elizabeth A. Stafford -S

PSC Publishing Services (301) 443-6740 EF

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Food and Drug Administration

Indications for Use

Form Approved: OMB No. 0910-0120
Expiration Date: December 31, 2013
See PRA Statement on last page.

510(k) Number: k133122

Device Name
IMMULITE® 2000 Total IgE Calibration Verification Material

Indications for Use *(Describe)*
The IMMULITE 2000 Total IgE Calibration Verification Material (CVM) is intended for in vitro diagnostic use, as a control for calibration verification of the IMMULITE 2000 Total IgE assay on IMMULITE 2000 systems as indicated in the CVM Package Insert.

Type of Use *(Select one or both, as applicable)*

☒ Prescription Use (Part 21 CFR 801 Subpart D) ☐ Over-The-Counter Use (21 CFR 807 Subpart C)

PLEASE DO NOT WRITE BELOW THIS LINE – CONTINUE ON A SEPARATE PAGE IF NEEDED.

FOR FDA USE ONLY

Concurrence of Center for Devices and Radiological Health (CDRH) *(Signature)*

Elizabeth A. Stafford -S